

# I&C Requirements

March 11, 2021

# Definitions

- **Calibration:**

Measurements of the instrument in the field during science observations

- These requirements are defined explicitly by the science requirements and instrument designs
- **Not in I&C scope**, other than to the extent needed to do commissioning.

- **Commissioning:**

Measurements of the instrument in the field prior to science observations

- Verification that the instrument is ready to observe, get the science.
- Expectations of "end of commissioning" vary between NSF and DOE

- **North-American Validation (in-lab):**

Measurements of the instrument prior to deployment

- **Not in I&C scope.**

# Commissioning Reqt's

*Some "very probables" (please add)*

## Telescope performance:

- Angular resolution (beams)
- Scanning performance
  - Scans as commanded, following okay
  - Microphonics okay
- Pointing reconstruction
  - sensors working

## Calibration Hardware performance:

- ? Do we need to ensure it works, on site?

## Receiver performance:

- Cryo okay
  - temperature baselines
  - temperature variations
- Readout okay
  - Yield
  - Squid noise
- Detectors okay
  - Yield
  - white noise NET, stability, loading
  - lines, 1/f
  - time constants

# Commissioning "probably not Req't's"

*(Need to discuss... and please add.)*

## **Partial calibration:**

- FTS
- Pol. Cal.
- time constants
- gain cal (chopped source/bias steps)
- Detailed beam measurements

## **Extra:**

- sidelobe maps